Trade and Industrial Education
Course: Concrete II
Course Code # 5738
2 Credits

School Year _____

Term:____Fall____Spring

Student:	Grade:
Teacher:	School:
Number of Competencies in Course:	**38**
Number of Competencies Mastered:	
Percent of Competencies Mastered:	

STANDARD 1.0: Students will demonstrate leadership, citizenship, and teamwork skills required for success in the school, community, and workplace.

Learning Expectations	Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
1.1	Demonstrate leadership skills.		
1.2	Use problem-solving techniques to address and propose solutions to school, community, and workplace problems.		
1.3	Demonstrate the ability to work professionally with others.		
1.4	Participate in SkillsUSA-VICA as an integral part of instruction.		

STANDARD 2.0: Students will take personal responsibility for the safety of themselves, their coworkers, and bystanders.

Learning Expectations	Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
2.1	Exhibit and encourage in others a positive attitude regarding safety practices and issues.		
2.2	Habitually inspect and use appropriate personal protective equipment for assigned tasks.		
2.3	Inspect, maintain, and employ safe operating procedures with tools and equipment, such as welding equipment, lifting equipment, and power finishing equipment .		
2.4	Exhibit a well-developed awareness of potential hazards to themselves and others		
2.5	Carry out responsibilities under HazCom (Hazard Communication) regulations.		
2.6	Take action to protect coworkers and bystanders from hazards as required by regulations, and company policies.		
2.7	Report accidents and observed hazards and execute emergency response procedures as required by regulations and company policies.		
2.8	Demonstrate appropriate construction-related safety procedures		
2.9	Pass with 100 % accuracy a written examination relating to safety issues.		
2.10	Pass with 100% accuracy a performance examination relating to safety.		
2.11	Maintain a portfolio record of written safety examinations and equipment examinations for which the student has passed an operational checkout by the instructor.		

STANDARD 3.0: Students will interpret, lay out, and fabricate in conformance to construction drawings and written specifications.

Learning Expectations	Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
3.1	Scale dimensions that are not explicitly included in construction drawings.		
3.2	Interpret plan and elevation views shown in construction drawings.		
3.3	Recognize and correctly interpret lines and symbols commonly used in construction drawings.		

STANDARD 4.0: Students will investigate the types, properties, and uses of lightweight concrete.

Learning Expectations	Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
4.1	Research lightweight aggregates for concrete.		
4.2	Compare and contrast lightweight aggregates, designs, and processes for roof and floor decks and walkways.		
4.3	Design and construct test panels using lightweight concrete as one component of a composite.		

STANDARD 5.0: Students will design and test concrete mixes to meet specifications.

Learning Expectations	Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
5.1	Design concrete mixes to meet specifications.		
5.2	Select aggregate from available sources and adapt concrete mixes to meet specifications.		
5.3	Calculate weights of components required to produce test samples of given concrete mix design.		
5.4	Cast, cure, and test concrete samples and compare with performance specifications		

Standard 6.0: Students will demonstrate construction site layout requiring radial measurements and curvilinear boundaries.

Learning Expectations	Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
6.1	Locate points on a construction site layout using angular measurements and control points.		
6.2	Verify locations by comparing multiple measurements.		
6.3	Lay out structural, landscape, and architectural components with curvilinear boundaries.		

Standard 7.0: Students will design common reinforced concrete structural members.

Learning Expectations	Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
7.1	Design reinforced concrete beams.		
7.2	Design one-way reinforced concrete slabs.		
7.3	Design reinforced concrete columns with small eccentricity.		

Standard 8.0: Students will describe basic troubleshooting methodologies for identifying and remedying concrete defects.

Learning Expectations	Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
8.1	Describe and demonstrate a reasoned troubleshooting process.		
8.2	Make a checklist of observable problems with reinforcement and forms prior to placement of concrete.		
8.3	Identify and describe tests and remedies for problems with wet concrete mixes at the job site.		
8.4	Describe possible difficulties and remedies associated with concrete placement and defects that could result.		
8.5	Describe observable defects in concrete caused by poor curing practices and possible remedies.		

STANDARD 9.0: Students will describe common surface defects and demonstrate ways to repair them.

Learning Expectations	Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
9.1	Identify common concrete defects found in existing structures.		
9.2	Describe and demonstrate appropriate methods for repairing defects in concrete structures.		

Additional Comments _____